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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/589,661	06/08/2000	Richard Louis Arndt	AUS990938US1	9881

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EXAMINER

TANG, KENNETH

ART UNIT

PAPER NUMBER

2127

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/589,661

Applicant(s)

ARNDT, RICHARD LOUIS

Examiner

Kenneth Tang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 11-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-10 are presented for examination. Claims 11-24 had been cancelled.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 4 recites the limitation "plurality of operating system images" in the second line.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-3 and 5 are rejected under 35 U.S.C. 102(e) as being unpatentable by**

Zalewski et al. (hereinafter Zalewski) (US 2002/0016892 A1).

4. Referring to claim 1, Zalewski teaches a logically partitioned data processing system, comprising:

- a plurality of logical partitions ("*multiple partitions*", see *Abstract*);

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- a plurality of operating systems, each assigned to a separate one of the plurality of logical partitions (*"Multiple instances of operating systems", "distinct copy, or instance, of an operating system", see Abstract*);
- a plurality of assignable resources, wherein each of the plurality of assignable resources is assigned to one of the plurality of logical partitions (*"logical partition" or LPAR. Each LPAR contains some of the available physical CPUs and resources which are logically assigned to the partition.", [0008]*);
- a hypervisor, wherein the hypervisor emulates shared resources and provides a virtual copy of the shared resources to each of the plurality of logical partitions (*"The assignment of resources to each virtual machine is controlled by a program called a hypervisor". There is only one hypervisor in the system and it is responsible for all the physical resources. Consequently, the hypervisor, not the other operating systems, deals with the allocation of physical hardware. The hypervisor intercepts requests for resources from the other operating systems and deals with the requests in a globally-correct way.", [0007], and "The VM architecture supports the concept of a "logical partition" or LPAR. Each LPAR contains some of the available physical CPUs and resources which are logically assigned to the partition. The same resources can be assigned to more than one partition.", [0008], Each of the partitions has access to its own physical resources plus resources designated as shared. [0018]*).

5. Referring to claim 2, Zalewski teaches the logically partitioned data processing system as recited in claim 1, wherein the shared resources comprise an operator panel (*"CPU resources is*

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given to each partition”, “can be changed by operators on-the-fly”, [0010], “While a separate terminal, or independent graphics console, could be used to display information generated by each console, preferably the serial lines 220, 222 and 224, can all be connected to a single multiplexer 226 attached to a workstation, PC, or LAT 228 for display of console information.”, [0037]).

6. Referring to claim 3, Zalewski teaches the logically partitioned data processing system as recited in claim 1, wherein the shared resources comprise a system console (“*While a separate terminal, or independent graphics console, could be used to display information generated by each console, preferably the serial lines 220, 222 and 224, can all be connected to a single multiplexer 226 attached to a workstation, PC, or LAT 228 for display of console information.”, [0037]).*

7. Referring to claim 5, Zalewski teaches the logically partitioned data processing system as recited in claim 1, wherein instructions for executing the hypervisor are contained within firmware (“*The assignment of resources to each virtual machine is controlled by a program called a “hypervisor”. There is only one hypervisor in the system and it is responsible for all the physical resources. Consequently, the hypervisor, not the other operating systems, deals with the allocation of physical hardware. The hypervisor intercepts requests for resources from the other operating systems and deals with the requests in a globally-correct way.*”, [0007], “Each hardware component also has an “affinity” handle. The affinity handle is identical to the config handle, except that it represents a configuration which will obtain the best performance of the

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component. For example, a CPU or memory may have a config handle which allows it to be configured anywhere in the computer system (it points to the hardware root node 304), however, for optimal performance, the CPU or memory should be configured to use the System Building Block of which they are a part. The result is that the config pointer points to the hardware root node 304, but the affinity pointer points to an SBB node such as node 322 or node 324. The affinity of any component is platform specific, and determined by the firmware. Firmware may use this information when asked to form "optimal" automatic configurations.", [0059]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zalewski et al. (hereinafter Zalewski) (US 2002/0016892 A1) in view of Hansson et al. (hereinafter Hansson) (US 6,339,713 B1).

9. Referring to claims 6-10, Zalewski teaches the logically partitioned data processing having firmware comprises of memory but fails to explicitly teach the firmware specifically comprising a read-only memory, a programmable read-only memory, an erasable programmable read-only memory, an electrically erasable programmable read-only memory, and a non-volatile

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random access memory. However, Hansson teaches that within firmware that information/data can be stored in any type of computer-accessible memory (*"Whether the invention is implemented in software, hardware, or firmware, the control code can be stored in any type of computer-accessible memory, e.g., permanent or modifiable, volatile or nonvolatile, solid-state or not, fixed or removable media, etc. Also, the memory can be, e.g., programmable array logic (PAL), random access memory (RAM), programmable read only memory (PROM), read only memory (ROM), electrically erasable programmable read only memory (EEPROM), magnetic, optical, digital versatile disk (DVD), etc"*, col. 10, lines 55-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of having the firmware comprise of the previously stated types of memory for the reason of improving the control and flexibility of data storage for the system.

Allowable Subject Matter

10. Claim 4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: Zalewski teaches the logically partitioned data processing system with a hypervisor, a system message from one of the plurality of operating system images, and the message being sent to an external data processing system through a network (*"operating system instance, has a console program image loaded, and a primary CPU available and executing. An initialized partition may be under control of a console program, or may be executing an operating system instance."*,

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[0039], "The systems interact by sharing disks and passing messages among themselves via some type of communications network.", [0006], "An instance may need to pass messages and receive notifications that new resources are available to partitions and instances", [0169], "hypervisor", [0007]). However, Zalewski fails to explicitly state that the system message is received by the hypervisor and that the hypervisor appends an operating system identity to the message to produce a new message to get sent.

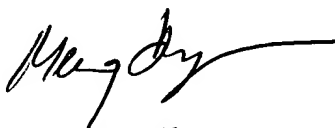
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (703) 305-5334. The examiner can normally be reached on 8:30AM - 7:00PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 746-7140.

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